

Specifications for Real-Time Aerosol Black Carbon measuring instrument

USEPA Instrument Performance Specifications:

1. The Instrument Package must include a sharp cut PM_{2.5}µm size cut inlet.
2. The Instrument must include a volumetrically controlled air sample pump.
3. The Instrument must provide measurements for wavelengths 950, 880, 470, and 370 nm.
4. The Instrument must offer high time resolution (1-Hz) analytical response.
5. The Instrument must automatically correct for filter loading light attenuation effects using real time instrument measured aerosol specific factors.
6. The Instrument must have either digital or analog voltage outputs for connection to an external data logger.
7. The Instrument must have Ethernet or USB connectivity to support remote computer access to instrument status, control, operation, and data download functionality.
8. The Instrument must be configured to minimize ambient relative humidity effects to observed measurements.
9. The Instrument must have internal memory capable of storing a minimum of one (1) month of comprehensive monitoring data.
10. The Instrument must have capability of operating for at least one (1) month unattended.
11. The Instrument must be mountable into a standard 19 inch instrument rack.
12. The Instrument must operate from 100~240 V, 50-60 Hz electrical power.
13. The Instrument must have UL or CE electrical safety certification.
14. The Instrument Package must include all consumables for approximately one year of continuous operation.
15. The Instrument must offer the capability to evaluate both detector zero and traceable span optical reference values for data quality assurance.
16. The Instrument Package must offer a ruggedized hard shell shipping case with foam liner.
17. The Instrument must carry a minimum of a two (2) year parts and labor warranty.

Certification of Minimum Requirements:

The vendor must certify that the above performance specification will be met.

Delivery Schedule:

Delivery of the requested Instrument, Accessories and Consumable Supplies must be made within 30 days of the date of the vendor's receipt of the purchase order.